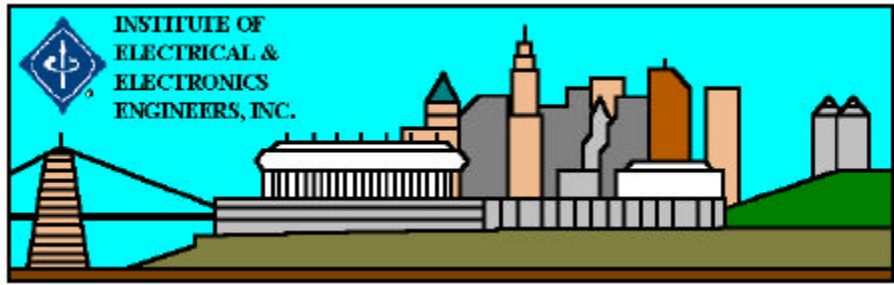


**IEEE CINCINNATI
SECTION
NEWSLETTER
SEPTEMBER 2001**



SEPTEMBER MEETING

ENVIRONMENTAL ISSUES FOR ELECTRONIC SYSTEMS

DATE: Thursday, September 27, 2001

PLACE : Raffles – 10160 Reading Road

TIME : 5:30 p.m. to 7:00 p.m. - Social Time/Dinner
7:00 p.m. to 8:30 p.m. - Program

COST FOR DINNER: \$15.00 which includes a buffet dinner, soft drinks/coffee, tax & gratuity.
Cost for student members - \$10.00

Raffles offers a wide selection of entrees, salads, soups, side dishes and desserts. There is also a bar available for the purchase of alcoholic drinks. It is located at 10160 Reading Road, south of Glendale-Milford Road on the east side of Reading. Take I-75 to the Glendale-Milford Rd. Exit, go east on Glendale-Milford Road approximately 3/4 of a mile to Reading Rd. and turn right on Reading.

Please call the Cincinnati Section Voice Mailbox at 513-629-9380, by **Noon, Tuesday, September 25, 2001** if you plan to attend. Please leave your **Name, IEEE Member Number**, and **a daytime telephone number**.

ABOUT THE MEETING: Previous research in general engineering design and the environment has determined that the designer can minimize the negative impact of a product on the environment by including additional design rules in the design process. An ecologically-sound design reduces energy consumption and waste during the design phase, during manufacturing, during system operation, and during disposal of the product when it is no longer usable.

Electronic systems, because of the way they are manufactured, impose additional complications on the disposal phase of the product cycle. Many of the components contain hazardous substances that are not easily recovered because they are encapsulated or laminated into the systems. Because of the difficulty of recovery, a substantial segment of these discarded parts becomes part of our garbage landfills. Besides the sheer volume of these electronic components, hazardous materials in them can eventually leach out into our air and water.

Design doesn't begin with the designer in most companies. Typically, it starts with marketing and customers in the form of a set of design requirements, is expanded by technical management and systems designers, and is then given to a team of designers for detailed analysis and implementation. Ideally, this process is a cyclical one that requires several iterations before reaching consensus. A number of non-environmental issues and constraints are

part of that dialog, all being critical to the success of that design in the marketplace. Environmental issues must conform to the overall goals because they can radically affect such design factors as performance, cost, reliability, size, weight, product market timing, manufacturing processes, interfacing, safety, testability, and a host of other issues that every designer has to consider during the design process.

ABOUT THE SPEAKER: Our speaker, Randy Holt is an Associate Professor at Northern Kentucky University and has been investigating environmental design and disposal of electronic systems for over ten years. He was awarded a sabbatical for the spring semester of 2001 to look into issues involving disposal and environmental design of electronic systems. This presentation is based on the findings from that sabbatical. Mr. Holt has been a member of IEEE for over 23 years and was elevated to Senior Member in November of 1999. He has served as chairman, vice chairman, secretary, and membership chair in the Cincinnati Section during these years.

MEETING LOCATION DIRECTIONS: From I-75 or I-71, get off at the Route 562 exit (Norwood Lateral). Then take the Montgomery Road exit off of 562.

Coming from I-71, at the end of the Montgomery Rd. Exit ramp, take a left onto Norwood Ave., follow to stop light and take a left onto Montgomery Rd. Hotel is approximately 2 blocks down on the right.

Coming from I-75, at the end of the Montgomery Rd. Exit ramp, take a left onto Wesley Ave. At next stop sign, turn left onto Norwood Ave. Follow to stop light and take a left onto Montgomery Rd. Hotel is approximately 2 blocks down on the right.

TO SUBSCRIBE TO THE ELECTRONIC NEWSLETTER

This newsletter is only available via e-mail or the Section's web page at <http://ieee.cincinnati.fuse.net/> with the exception of new Section members (one issue only) or members who have specifically requested a copy be delivered through the U. S. Mail.

If you are a new Section member and would like to get this newsletter electronically, please contact Bob Morrison (Editor) at **513-287-3697** or by e-mail at j.r.morrison@ieee.org. Provide your name and member number. In case there are questions, please include a daytime telephone number as well.

If you would like the "Snail Mail" version, you must contact Bob Morrison via the above means or call the Section's voice mail at **513-629-9380**.

CHAIR'S MESSAGE

by Tom Grau, Section Chair

The Summer has just about concluded; the Labor Day celebrations are a thing of the past and it's time to focus on the Fall and Winter activities. I hope your Summer and its activities have been memorable; mine certainly have been.

Many of you will recall our last meeting, held at the Harris Broadcast Corporation Headquarters in May. The subject was HDTV and the conversion from analog to digital television. A tour of the Harris facilities followed. Mr. Geoffery Mendenhall and his associates did an outstanding job of presenting the HDTV technology, its history and the history of the Harris Corporation in an extremely interesting way. On behalf of the Cincinnati Section of the IEEE, I take great pleasure in extending our sincerest thanks to our Harris hosts for this most interesting evening.

Also, just before the Summer recess, the Executive Committee conducted a Survey of our membership. We received 117 responses to the Survey with the majority being returned in the first week after the request was made. Needless to say, we were very pleased with such a good response. As an incentive, and to reward participation in the Survey, we placed all the names of those who responded to the Survey in a drawing for a \$25.00 gift certificate to his or her favorite store. Congratulations go to **Curt Pflasterer** who won the \$25.00 gift certificate.

Over the Summer Richard (Dick) J. Reiman compiled and edited the *History of the Cincinnati Section of the IEEE from 1963 to 2001*. I have found this work very interesting as I believe you will. I wish to publicly and officially thank Dick for this outstanding job. A copy of this history is included on our web site at <http://ieee.cincinnati.fuse.net/>.

As we begin our work this fall, I note that there are several openings on the Executive Committee and I urge you to volunteer to help conduct the business of our Section. Please contact me at (513) 899-3181 or E-Mail to T.GRAU@IEEE.ORG.

CINCINNATI SECTION SURVEY RESULTS

First, a few comments about the Survey. A five-question survey was established at the WEB site for the members of the Cincinnati Section of the IEEE and an E-Mail was distributed electronically, to all members who receive the Newsletter electronically. Members were asked to visit the WEB site and fill out the Survey. Paper copies of the Survey were mailed to members who receive the Newsletter via US Mail.

We received 117 responses to the Survey with the majority being returned in the first week after the request was made. Needless to say, we are very pleased with such a good response. Also included in the Survey was a drawing of a \$25 gift certificate drawn at random and awarded to one of the people responding to the Survey.

The following is a tally of the results, by question, displayed in order from greatest response to least response.

Question 1: What locations are you willing to travel to in order to attend an IEEE meeting or event?

86	Montgomery/Blue Ash
81	Sharonville
70	UC Main Campus
65	Downtown Cincinnati
60	West Chester
52	Fairfield
47	Northern KY
37	Western Hills
7	Other

Question 2: What type of speakers would you like to have at the section meetings?

95	Technical Presentations
64	Profession/Career Issues
38	The Internet
37	IEEE Membership Benefits
30	Consulting
29	Starting your own business/entrepreneurship
28	Any, but high quality

27	IEEE Financial Services
26	Investments
25	Networking
20	Public Speaking/Presentation Skills
18	Patents
8	PACE or other IEEE/Technical videotape
1	None, no speaker or presentation
1	No opinion

Question 3: Select five Technical areas that you are most interested in hearing a presentation on:

76	Communications
76	Computers
72	Power Engineering
64	Industry Applications
46	Robotics and Automation
43	Control Systems
38	Instrumentation and Measurement
35	Engineering in Medicine & Biology
30	Signal Processing
28	Aerospace and Electronic Systems
28	Circuits and Systems
8	Antennas and Propagation
6	Microwave Theory and Techniques

Question 4: Select five PACE topics that you are most interested in hearing a presentation on:

79	Overview of Investment Strategies
65	Latest Advances in Technologies
55	Effective Communication Skills for Engineers
46	Humor in the Workplace
45	Marketing Yourself
44	Developing and Maintaining a Computer
43	Benchmarking Engineering Skills Against a Rapidly Changing Future
38	Basics of Intellectual Properties, Copyrights, and Trademarks
36	Stress Management
35	Career Transition
29	Inventions and Patents
24	Engineering Ethics
15	How to Create Your Own Electronic Resume
11	Managing Diversity

Question 5: In the past, I did not attend IEEE Cincinnati Section meetings because:

60	Family Commitments
40	Topic Is Not Interesting
39	Too Busy
34	Working Long Hours
33	Do Not Have Time
16	Meeting Location
13	Meeting Time Is Not Convenient
10	Did Not Want To

9	Drive Time Too Long
6	Parking
4	Meeting Time Is Too Long
1	Not Aware I Could Attend

NEW MEMBERS

The following individuals are IEEE members who are new to our Section:

Anuradha Agarwal	Michael T. Doyle	Sowmya Mahadevan	Todd J. Schimpf
Timothy W. Arrowsmith	Danny W. Eaton	Rajul I Haque Mahmud	Vasant K. Shastri
Rashmi Bajaj	Michael D. Enders	Arati B. Manjeshwar	Robert E. Shaver
Maria E. Baker	William J. Ertle	Ann Marie McNamara	Darvin Spencer
J. W. Bell	Anthony J. Evers	Mark R. Messner	Brian K. Stallman
Michael D. Berry	Nick Farace	John B. Mitchell	Joshua E. Stamper
David M. Bezesky	Richard L. Field	Chanaka D. Munasinghe	Chiping Tang
Oscar L. Blackburn	Randy G. Fischer	Kannan K. Nambiar	Norman H. Tarr
Peter G. Bodde	Richard K. Fox	Ping Niu	Kent Thompson
Kenneth L. Borders	Chuan Gao	Jeff Ondrovic	Yu-Hua Ting
Zachary R. Brown	James E. Graef	Bill L. Pack	Roland Varga
Thomas J. Bruns	G E. Heidenreich	Brian K. Poling	Roman J. Verdin
James R. Burdsal	Carl O. Hilgarth	Paul A. Prosperino	Robert J. Vogel
Scott T. Campbell	N. W. Jackson	Srikoundinya Punnamaraju	Michael D. Walker
Louise Chaytor	Ralph Jackson	Joseph C. Rafalowski	Aaron M. Wanstrath
David Cohen	Dennis A. Jamora	Mukesh Ranjan	David T. Wilson
Byron M. Combs	Roxanne M. Johnson	James R. Reizner	Neil J. Wilson
David B. Conkright	W. M. Lewis	Norman D. Rice	
Robert H. Cook	James F. Loggins	Todd S. Rutherford	
John Davey	Jerome E. Luczaj	David M. Saxe	

We wish to extend our welcome to all of our Section's new members!!!

ATTENTION Retired Engineers and Scientists! ***Consider RESC Activities !***

The **Retired Engineers and Scientists of Cincinnati - RESC** for short - invite those with **technical backgrounds** who are **retired** and would like to **share good fellowship** while **pursuing interests** in technology, community, history and nostalgia, travel, and business or industry developments.

Activities include monthly **luncheon meetings**, periodic **plant tours**, and **golf** in season. Luncheon meetings are held on the third Tuesday of each month from October through May.

VIEW THE FULL SCHEDULE AT: **<http://RESC-Online.org>**

NEXT LUNCHEON MEETING

**Tuesday, October 16
11:30AM**

Luncheon meeting at Unity Center, 1401 East McMillan St. - Side entrance on Grandview Ave. to lower level - Reservations required by **October 10, 2001.**

Program:

COMPASS - Master Plan & Strategies for Hamilton County

Speaker:

Steve Johns, Planner, Hamilton County Regional Planning Commission
will describe COMPASS, a planning process applying modern technology, demographic trends, and the teamwork of officials and citizens to develop a unified vision for the communities under 49 jurisdictions within the county.

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1/3 Pg. (6-3/4" x 3-1/2" Horiz.)	25	65	85	115
1/2 Pg. (6-3/4" x 4-3/4" Horiz.)	30	75	110	125
2/3 Pg. (6-3/4" x 6-1/2" Horiz.)	35	90	120	145
Full Pg. (6-3/4" x 9-1/2")	45	110	145	165

If you are interested in placing an ad, or if you have questions, please contact:

Bob Morrison, Newsletter Editor

IEEE, c/o Cinergy Corp.

P.O. Box 960, Room 552 Annex

Cincinnati, Ohio 45201

Ph. (513) 287-3697, Fax (513) 287-3698

e-mail: j.r.morrison@ieee.org

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- FREE Daily Door prize drawings
- FREE IEEE sub-group meetings

For more information, go to the following website: <http://www.eic-emcwexpo.org>

Scanning the Past: A History of Electrical Engineers from the Past

The following is taken from the IEEE publication, "Scanning the Past" which covers a reprint of an article appearing in the Proceedings of the IEEE Vol. 79, No. 9, September 1991

The Faraday Bicentennial

This month we observe the 200th anniversary of the birth of the eminent British natural philosopher, Michael Faraday (1791-1867), who made numerous contributions to electrical science including the discovery of electromagnetic induction and the introduction of the concept of the electromagnetic field.

Born in Newington, near London, England, Faraday was the son of a blacksmith. He wrote years afterward that "I love a Smith's shop and anything related to smithing" and his legendary experimental skill perhaps reflected this. His formal education was quite limited, but he took advantage of opportunities to attend public lectures and became an avid reader. Beginning when he was thirteen, he served an apprenticeship to a bookbinder. In 1813 he began his long career in science, when Sir Humphry Davy, the renowned chemist and lecturer at the Royal Institution in London, hired him as a laboratory assistant. Faraday learned much from Davy, who introduced him to leading scientists on the continent during an extended tour that ended in 1815.

In 1821, Faraday demonstrated an electric motor effect where the pole of a permanent magnet fixed at one end rotated around a current-carrying conductor. In 1825, he was appointed director of the Royal Institution laboratory and soon initiated a lecture series that helped to popularize science and increase scientific literacy. For many years, he presented an annual series of lectures to children during the Christmas season on topics such as the chemical history of a candle.

In 1831, Faraday made a major discovery by showing that relative motion between a magnet and a nearby conductor produced an electromotive force in the conductor. This principle led to the development of magneto-electric generators and, in the late 1860's, to the dynamo. An extensive series of experiments on dielectrics led

Faraday to the idea of specific inductive capacity (dielectric constant). This research was the basis for the adoption of the farad as the unit of capacitance at an international electrical congress in 1891.

Faraday also did important investigation in the field of electrochemistry, discovering what became known as Faraday's Law of Electrolysis. He introduced such familiar terms to the electrical vocabulary as electrode, electrolyte, anode, cathode, and ion.

During the 1840's, Faraday discovered that a magnet could cause rotation of the plane of polarization of a beam of light and discussed a theory of the electromagnetic field that later was to be given mathematical form by James C. Maxwell. Underlying Faraday's experimental program was his general belief in the unity and convertibility of forces, including, gravitational as well as electric and magnetic. His friend and colleague, John Tyndall, wrote that Faraday "was incessantly theorizing" and that "theoretic ideas were the very sap of his intellect-the source from which all his strength as an experimenter was derived." Many of Faraday's more than 150 technical papers were included in his classic three-volume work, *Experimental Researches in Electricity*, which inspired Thomas A. Edison among others.

The Faraday bicentennial has stimulated numerous special events and observances. The British Post Office has issued a postage stamp in his honor, and a new 20-pound bank note features a portrait of Faraday. The British Science Museum has created a major exhibition on his work to open in the summer of 1991 and run for six months. A meeting of the American Chemical Society held in Atlanta, Georgia, in April 1991 included a symposium with several papers on Faraday as a chemist and popular lecturer. A bicentenary symposium on both Faraday and Charles Babbage was held at Cambridge University in July 1991. The Royal Institution, the Royal Society of Chemistry, the Institute of Physics, and the Institution of Electrical Engineers (IEE) plan special meetings near the time of the anniversary in September. The first volume of a planned series of Faraday's complete correspondence and at least two popular biographies are among the many publications to be issued in celebration of the bicentennial.

Since the power and communication systems of today are based to a considerable degree on Faraday's work, it is most appropriate that electrical engineers and scientists celebrate the bicentennial of his birth and reflect on his legacy.

*James E. Brittain
School of History, Technology, and Society
Georgia Institute of Technology*

IEEE NEWS

NEWLY DESIGNED IEEE-USA CONSULTANTS DATABASE INTRODUCES CLIENTS TO TECHNICAL CONSULTANTS

WASHINGTON (July 27,2001) - The newly designed IEEE-USA Consultants Database is now live on the Web at www.ieeeusa.org/consultants. This premier service matches prospective clients with the world's finest electrotechnology and information-technology professionals-for-hire.

The completely rebuilt database offers many new and enhanced features, making it more powerful and easier to use. The site, which last year logged more than 30,000 visits, is the ideal online meeting place for consultants and prospective clients.

For consultants, the database includes a profile of their credentials, contact information and a link to their Web site. Visibility can be increased through the purchase of online banner ads, and data can be updated instantly at any time. A one-year membership is just \$75 for IEEE members and \$99 for non-members.

Clients, too, will be pleased with the enhanced database. The upgraded search functions - including a new questionnaire-based tool - make it easier to find the right consultant for any project. Clients can also post projects on the new assignment board. There is no charge to clients to search or post on the site.

A searchable compact disk containing the entire database will be available later in the year. For a free copy, call IEEE-USA at 202-785-0017 (x8367) or send an e-mail to consultantsdatabase@ieee.org.

NATIONAL ENGINEERS WEEK 2002 LOOKS TO SHARE ITS MESSAGE WITH AN EVER YOUNGER AUDIENCE

Aiming to reach the very young with a message about the importance of engineering, technology and science, National Engineers Week 2002 plans to establish a nationwide training program for volunteer engineers to work with 6- to 11-year-olds. Designed in conjunction with the popular PBS television show "ZOOM," the training will teach engineers how to use a new hands-on activity kit that explores the fun and fascination of engineering. Engineers interested in participating are asked to submit a letter of interest by 1 August 2001 to Kelly Cunningham at klcpr@bellatlantic.net.

For more on this outreach effort, visit: [<http://www.ieeeusa.org/eweek/zoom_summit.html>](http://www.ieeeusa.org/eweek/zoom_summit.html)

IEEE-USA TABLETOP DISPLAY AVAILABLE FOR IEEE FUNCTIONS

You can book the IEEE-USA tabletop display for use at IEEE functions held within the continental United States. IEEE-USA will provide the portable tabletop display and IEEE-USA materials, and cover shipping both ways. Book in advance; reservations will be scheduled on a first come, first-served basis. For more information, contact Meredith Lohr, IEEE-USA Communications Assistant, at m.lohr@ieee.org or by calling +1 202 785 0017, ext. 8354.

SALARIES OF U.S. IEEE MEMBERS REACH RECORD LEVELS

WASHINGTON - The IEEE-USA Salary and Fringe Benefit Survey, 2001 Edition is encouraging reading to U.S. IEEE members -- showing substantial gains in the salaries of our members. The number of respondents nearly doubled to more than 9,700, largely because the survey was conducted online for the first time. The increase in the database volume makes the survey the biggest and most accurate of the 15 studies of member compensation that IEEE-USA has conducted. The survey was released in June.

The 2001 survey shows major gains in the value of professional services in electrical, electronics and computer engineering. The previous survey, conducted in 1999, reported the largest increase ever in the real incomes of U.S. IEEE members when measured in constant dollars. The 2001 edition shows substantial further gains; clearly, employers are placing increasing value on the services of EEs.

The median value of base pay for members working full time in their area of professional competence has risen by 6.5 percent since 1999. Coupled with the gains reported in 1999, our members have seen their purchasing power increase by more than 18 percent over the last four years. These gains are for all members as a group. Most individuals will have done much better because they have also received annual raises reflecting their increased experience.

As of January 2001, the median primary income -- which includes base pay, commissions and bonuses, and any net income from self-employment -- of U.S. IEEE members working full time in their primary area of technical competence was \$93,100. Two years ago the figure was \$82,000. The gains look even better if income from all sources is counted, adding in earnings from second jobs, payments for overtime, pension benefits and the like. This pushes the median incomes of engineers working full time in their specialties up to \$99,000 in 2001, compared to \$87,200 in 1999. Both gains represent increases of 13.5 percent in absolute (not constant) dollars.

In addition to these types of compensation, more than a third of U.S. IEEE members in the workforce received stock options in 2000. Although the share receiving stock options has increased from 27.5 percent in 1997, the typical estimated worth of the options was much lower, to a median estimated value of \$5,000. This is half the size of the figure reported in 1999.

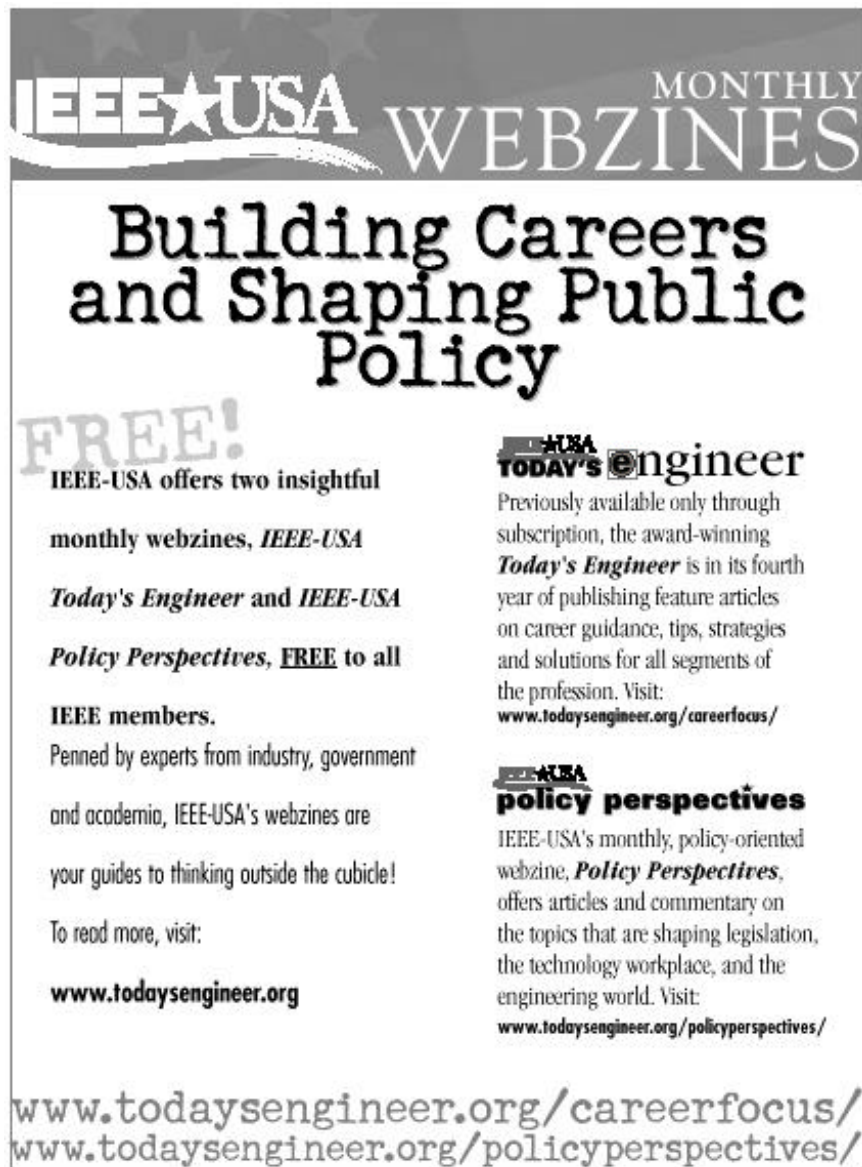
The failure of the dot-com investment craze has affected the option-compensation picture, and fully a third of all those receiving options in 2000 assessed them as worthless by early 2001. At the same time, some members received very large compensation in the form of options, including awards valued at \$1 million or more. Hence, the 2001 survey reveals both the risks and the potential rewards of stock options as a component of overall compensation.

IEEE-USA's 2001 salary and fringe benefits survey benefited immensely from a change in data collection. In the past, members were asked to fill out paper questionnaires. This time, they responded to questions on an Internet site. The shift to online data collection significantly lowered the cost of the survey. And the greater number of respondents means that details not reported in the past will be found this year.

So why should you order a copy of the survey? Simply put, it is the only real source for timely, vital information that you must have to assess your market value as an engineer. It is clearly the definitive salary and reference guide for technical professionals.

In addition to the survey, an online salary calculator will be available for a nominal cost through the IEEE-USA Web site www.ieeeusa.org. This personal salary estimator replaces Salary Benchmarks: A Personal Workbook, and will make it easier than ever to make sure you're getting paid what you're worth.

The IEEE-USA Salary & Fringe Benefit Survey, 2001 Edition, can be ordered by IEEE members for the regular member price of US \$74.95. This is half off the US \$149.95 price for non-IEEE members. To order, call 1-800-678-IEEE (4333) and ask for product number UH-2990.



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Previously available only through subscription, the award-winning *Today's Engineer* is in its fourth year of publishing feature articles on career guidance, tips, strategies and solutions for all segments of the profession. Visit: www.todaysengineer.org/careerfocus/

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IEEE-USA's monthly, policy-oriented webzine, *Policy Perspectives*, offers articles and commentary on the topics that are shaping legislation, the technology workplace, and the engineering world. Visit: www.todaysengineer.org/policyperspectives/

www.todaysengineer.org/careerfocus/
www.todaysengineer.org/policyperspectives/

NEW IEEE JOB SITE GOES TO WORK FOR TECHNICAL JOB SEEKERS

WASHINGTON, D.C. (June 8, 2001) – A new IEEE Job Site at www.ieee.org/jobs features the IEEE e-Recruiter™ job service that makes the job-hunting process easier and more effective for technical professional job seekers. The online service, sponsored by IEEE-USA and IEEE Spectrum, allows IEEE members worldwide to create and submit a profile of their background and the characteristics they'd like in a new job.

The service, powered by Hire.com's e-Recruiter™ software, then scours its extensive database for positions that match what the job hunter is looking for in employment. New job postings are continually being added, and the job seeker is notified by e-mail if there is a profile match. And the process can be conducted anonymously.

To encourage IEEE members to register and submit their profiles early, IEEE Spectrum will award a Personal Digital Assistant to three members who establish a profile within the first 90 days of the site's 7 June launch.

The job service is free for IEEE members.

For more information or to register and submit a profile, visit www.ieee.org/jobs.

IEEE SOLE DISTRIBUTOR FOR UNIVERSITY OF NEW MEXICO MICROELECTRONIC COURSES

The University of New Mexico has chosen IEEE to be its sole distributor for three Microelectronic graduate courses. Managers and practicing engineers in the manufacturing industry will benefit from these videotape series because of the professional lecturers and state-of-the-art information. Each course contains thirty 75-minute lectures, with an emphasis on practical application rather than theory.

The Microelectronic Reliability course is from the spring semester 2000 and describes integrated circuit and package technology with topics including failure mechanisms and measurement, wafer level, and medical product reliability.

Microelectronic Failure Analysis from the Fall semester 1999 emphasizes failure mechanisms and was originally presented across the United States via satellite. With the lecture notes, Power Point slides, and book, this course gives participants organized and thorough information. Newly available for separate purchase are the eight lectures on Technical Foundation formerly part of the 1997 Failure Analysis course.

These lectures give participants background knowledge on the scope of Failure Analysis.

Engineers who work in the CMOS IC manufacturing industry will also benefit from the Microelectronic Test Engineering course now available. This course fills the void in test engineering at the university level by discussing background technology and diverse modes of testing.

The three courses are ideal for group learning. IEEE and the University of New Mexico believe that these products will equip the industry with the most recent microelectronic advances. As new University of New Mexico microelectronic courses are completed, IEEE will be offering them for purchase.

Check out full descriptions of these courses at the online IEEE Store with no obligation. Simply put the appropriate product number in the search engine: Microelectronic Reliability; Product: #HV7048; Microelectronic Test Engineering; Product: #HV7047; Microelectronic Failure Analysis - Technical Foundation Lectures; Product: #HV7060; Microelectronic Failure Analysis; Product: #HV70597.

The videos can be ordered from the IEEE Customer Service Department, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331, USA; by e-mail: customer-service@ieee.org; by phone: 1.800.678.4333; and on the Web at <http://shop.ieee.org/store/>. For further information on Education Activities check out our Website <http://www.ieee.org/eab/index.htm>.

WASHINGTON INTERNSHIPS FOR STUDENTS OF ENGINEERING (WISE)

Deadline for applications: December 3, 2001

The IEEE is looking for outstanding student members with strong leadership skills and an interest in public policy to participate in the Washington Internships for Students of Engineering (WISE) during the Summer 2002 program (May 28 - August 2). In addition to U.S. citizenship, students must also be in their Junior or Senior years or a recent grad entering a policy-related Masters program.

During the 10 week program, participants learn how the U.S. government makes decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions. In addition to interacting with government decision-makers and organizations, each WISE Intern prepares a research paper on an engineering-related public policy issue. The IEEE's 2001 WISE Interns tackled topics on

electricity reliability, 3G (wireless) spectrum allocation, and policies to bridge the digital divide. Students work under the guidance of a faculty advisor and are mentored by staff and volunteers from the IEEE Washington office. Interns receive a stipend of \$1,800 plus travel expenses and lodging.

Program and application information is available online at <http://www.wise-intern.org> or contact: WISE, Attn: Anne Hickox, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Phone: (724) 776-4841, x7476, Fax: (724) 776-2103, E-mail: anne@sae.org.

AUGUST - SEPTEMBER 2001 EDITIONS OF IEEE-USA WEBZINES ARE LIVE

The August - September 2001 editions of *IEEE-USA TODAY'S ENGINEER* and *IEEE-USA POLICY PERSPECTIVES* are available now on the Web.

TODAY'S ENGINEER is IEEE-USA's monthly, career-oriented webzine, offering feature articles and short blurbs with career guidance, tips, strategies and solutions for all sectors of the profession. This month's fare includes:

- * Telecommuting Pros and Cons -- From the Trenches
- * To E-mail or Not to Email -- And If So, How?
- * Engineering Trends: Work Relationships
- * Engineering Hall of Fame: Frank H. McIntosh and the Advent of Hi-Fi
- * World Bytes: The Greatest Risk is Not Taking One
- * OpEd Corner: Engineering Publicity -- The Sequel
- * New Capers Cartoon -- The Telephone Conference

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